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Morton J. Marcus
and John C.S. Lim

**Tentative Household Projections for
Indiana Counties**

Graham S. Toft and
F. Dale Parent

**The Economic Performance of Indiana:
A Comparison of Metropolitan Economies**



Tentative Household Projections for Indiana Counties

In this issue . . .

The economic condition of metropolitan areas of Indiana is of utmost importance to the state's future. Although our population is dispersed through cities large and small and scattered along country roads so that at night lights from our homes give the impression of widespread habitation, it is in our cities that the economic base of our state is anchored. Graham Toft and Dale Parent examine the recent changes in our metropolitan areas and offer several important observations.

Morton J. Marcus
Editor

Many plans for the future are based on the number of households rather than on the number of persons. To begin a research effort in household projections, we have developed a preliminary and most tentative set of county data. Our readers can help by indicating to us their interest in the continuation of this activity.

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The release of Indiana's county population projections in the August 1983 issue of the *Indiana Business Review* stimulated inquiries about the meaning of those data for various sectors of the state's economy. In this article we attempt a most tentative approach to answering one such question relating to the housing industry: How will households change in Indiana's counties in the remainder of this century?

The number of households is of importance to realtors, mortgage lenders, and the many companies in the housing construction industry. Also interested in these data are all firms and governments which see their clients or customers in terms of households. Telephone, gas, electric, water, and sewer services are provided to households. Newspapers are delivered to and garbage is collected from households. The number of persons in each household is of consequence, but the basic unit for market analysis is most often the household rather than the person.

Statewide Projections

Indiana's population is projected to grow by 365,300 (6.7%) between 1980 and 2000, a very slow rate of increase compared to other twenty-year periods. (see Table 1.) This does not mean, however that the number of households will also increase at the same slow rate. Two other factors

are important in predicting changes in the number of households: changes in the number of persons per household and changes in the number of persons of household-forming ages.

During the 1960s, there was little difference between the rate of growth in the total population and the growth of the population age 20 and older. But in the 1970s, the total Hoosier population grew by only 5.7% while the 20 and older population grew by 15.6%. The increase in the number of housing units (19.8%) was more closely allied with the growth rate of the adult population than with the growth rate of the total population. Since adults form households, their numbers occupy our attention for projections of household growth. In the 1970s, we estimate that 79% of the growth in Indiana households resulted from the increase in the adult population and 21% from other social and economic forces.

In Table 2 we present Indiana's population and household history from 1960 to 1980 and projections to 2000. The projections are based on an assumed linear decline in the ratio of persons age 20 and older per household. We offer no science or sociology for this projection. It is a speculation that the economic and social forces which have tended to decrease the average size of households will continue to hold sway for the remainder of the century. These forces have been documented by authors making megabucks from the micro-trends of households: later marriage, divorce, longer lives, longer periods of independence for the elderly.

These tentative projections indicate an increase of 457,300 households in Indiana from 1980 to 2000. This 23.7% increase contrasts with the small (6.7%) increase in total population and the moderate (14.7%) increase in persons age 20 and older. The increase in households can be divided between the increase in population and the change in lifestyle. Thus, if the number of persons age 20 and older per household were to remain constant at the 1980 level (1.895), 283,600 more households would result just from growth in the adult population. This increase would account for

Table 1

Percent Change in Indiana's Population For Selected 20-Year Periods

1880 to 1900	27.2
1900 to 1920	16.4
1920 to 1940	17.0
1940 to 1960	36.0
1960 to 1980	17.8
1980 to 2000 (projected)	6.7

62.0% of the total growth projected. The remaining 173,700 households are formed by the assumed decrease in the number of adults per household (1.757 in 2000).

County Projections

Indiana's 92 counties vary considerably in their population-household ratios, reflecting the diverse opportunities available to the equally diverse populations in the state. For example, in 1980, 70.6% of the population in Vanderburgh County (Evansville) was age 20 or older. In Lagrange County, 59.3% of the population was in the adult age group. By the end of the century, it is projected that 78.5% of Vanderburgh County's population will be age 20 and older; in Lagrange County, 63.5% of the population will be in that age group.

Table 3 provides the tentative projections for households in each Indiana county. It has been assumed that each county retains its position relative to the state in terms of its ratio of population age 20 and older to households. Thus, for example, the ratio of population per household in Putnam County was 2.077 in 1980. With the state ratio moving from 1.895 to 1.824 in 1990, Putnam County was assumed to have changed by the same relative amount,

yielding an adult population to household ratio of 1.999 in 1990.

$$\text{Putnam 1980} \times \frac{\text{Indiana 1990}}{\text{Indiana 1980}} = \text{Putnam 1990}$$

$$2.077 \times \frac{1.824}{1.895} = 1.999$$

This same procedure was followed for each county to yield the required adult population-to-household ratio for 1990 and for 2000.

Unlike the population projections which indicated that several counties would decline in population between 1980 and 2000, these household projections indicate a decline only in Benton County. At the other end of the growth spectrum, Hamilton County was projected to grow by 46.6% in population and 81.6% in households in the next twenty-year period.

Concluding Note

These household projections tend to follow the population projections offered in these pages in August 1983. They also reflect changing age distributions; counties with rapidly growing adult populations show

greater increases in number of households than increases in number of children.

These projections of households are not projections of home building. Even if there were no growth in households, there would be a demand for new housing based on the deterioration and deletions from the existing housing stock which take place even in stagnant or declining areas.

Readers of this article who find these projections of interest will note that they are labeled "tentative." We believe that more detailed analysis is warranted before any household projections are accepted. If these projections are of interest, we would appreciate a short note encouraging us to continue this activity. From the responses of concerned users, we can determine appropriate directions for our studies. ☐



Table 2

Indiana Population and Households—1960 to 2000

Year	Number of Occupied Households	Total Persons All Ages	Persons Per Household	Persons 20 and Older	Persons 20 and Older Per Household
1960	1,387,878	4,662,498	3.359	2,835,232	2.043
Percent Change	16.0	11.4		11.5	
1970	1,609,494	5,193,669	3.227	3,160,836	1.964
Percent Change	19.8	5.7		15.6	
1980	1,928,375	5,490,179	2.847	3,653,951	1.895
Percent Change*	12.8	3.3		8.6	
1990*	2,175,954	5,673,900	2.608	3,968,940	1.824
Percent Change*	9.6	3.2		5.6	
2000*	2,385,700	5,855,500	2.454	4,191,700	1.757

*Projected values



Table 3
Number of Households in Indiana Counties, 1980-2000

County	1980 Census	1990 (Projected)	2000 (Projected)	Percent Change	County	1980 Census	1990 (Projected)
Adams	9,650	11,200	12,900	34.0	Lawrence	15,553	18,200
Allen	104,278	119,000	131,400	26.0	Madison	50,076	54,700
Bartholomew	22,809	27,600	31,200	37.0	Marion	285,094	300,700
Benton	3,654	3,500	3,600	-2.8	Marshall	13,669	15,900
Blackford	5,536	5,800	5,900	7.4	Martin	3,806	4,100
Boone	12,663	15,500	17,900	41.4	Miami	13,694	15,300
Brown	4,422	5,900	7,100	61.0	Monroe	33,734	38,100
Carroll	7,007	8,300	9,200	31.6	Montgomery	12,953	14,800
Cass	14,675	15,900	17,200	17.1	Morgan	17,184	21,300
Clark	31,067	38,100	44,100	41.9	Newton	5,070	6,500
Clay	9,243	10,100	10,800	17.3	Noble	12,079	14,400
Clinton	11,297	12,100	13,000	15.4	Ohio	1,798	2,300
Crawford	3,465	4,400	5,200	49.8	Orange	6,758	7,800
Daviess	9,905	10,700	11,600	17.3	Owen	5,695	7,500
Dearborn	11,493	14,200	16,400	42.9	Parke	5,962	7,000
Decatur	8,050	9,000	9,900	23.4	Perry	6,779	7,300
Dekalb	11,424	13,100	14,900	30.4	Pike	5,098	5,900
Delaware	44,692	47,100	48,900	9.3	Porter	39,238	55,500
Dubois	11,288	13,800	15,400	36.7	Posey	9,021	11,400
Elkhart	48,242	56,400	63,700	32.1	Pulaski	4,701	5,200
Fayette	9,979	11,500	12,800	28.0	Rutnam	9,445	11,000
Floyd	21,463	25,100	28,100	31.0	Randolph	10,719	11,900
Fountain	6,888	7,800	8,400	21.6	Ripley	8,157	9,800
Franklin	6,152	7,500	8,900	44.0	Rush	6,636	6,700
Fulton	7,194	8,400	9,300	29.1	St. Joseph	86,241	91,500
Gibson	12,171	14,000	15,300	25.8	Scott	6,680	8,300
Grant	28,000	29,500	30,600	9.3	Shelby	13,905	15,800
Greene	11,622	13,400	14,800	27.0	Spencer	6,388	7,700
Hamilton	27,222	39,000	49,400	81.6	Starke	7,510	8,900
Hancock	14,439	18,900	22,500	55.5	Steuben	8,747	11,200
Harrison	9,036	12,200	15,000	66.4	Sullivan	7,965	8,800
Hendricks	22,726	29,900	35,900	57.9	Switzerland	2,535	3,000
Henry	18,787	20,400	21,800	16.0	Tippecanoe	40,759	44,300
Howard	31,101	35,000	38,300	23.1	Tipton	5,989	6,500
Huntington	12,400	13,400	14,600	17.7	Union	2,403	2,600
Jackson	12,994	15,000	16,800	29.2	Vanderburgh	64,110	68,400
Jasper	8,328	11,100	13,600	62.8	Vermillion	6,934	8,000
Jay	8,383	9,000	9,500	13.0	Vigo	40,374	41,200
Jefferson	10,320	12,500	14,000	36.0	Wabash	12,601	14,100
Jennings	7,306	9,100	10,500	44.0	Warren	3,077	3,400
Johnson	25,341	33,000	39,300	54.9	Warrick	13,735	19,700
Knox	15,511	16,700	17,000	9.8	Washington	7,554	8,900
Kosciusko	20,810	26,400	31,200	49.9	Wayne	27,508	28,600
Lagrange	7,748	10,000	12,100	56.6	Wells	8,838	10,200
Lake	175,631	178,500	187,700	6.9	White	8,846	10,200
LaPorte	37,343	41,400	44,700	19.8	Whitley	9,002	10,400

The Economic Performance of Indiana: A Comparison of Metropolitan Economies

Graham S. Toft and F. Dale Parent

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Reporting and analyzing economic performance by states, or even by nations, can be misleading. These units are political creations, and their boundaries may have little in common with those of homogeneous socioeconomic regions. This particularly applies to Indiana, which has been depicted by Joel Garreau in *The Nine Nations of North America* as a state on the border of the "nations" of the Foundry, the Breadbasket, and Dixie (see Figure 1). Aggregation of economic statistics and indicators on a statewide basis in Indiana does injustice to its heterogeneity and can disguise the relative performance of regions and metropolitan areas, thus concealing opportunities for and threats to economic strategy. Furthermore, it can lead to muddled thinking regarding the appropriateness of statewide initiatives for economic development.

This article examines the economic performance of Indiana between the recessions of 1975 and 1982 by comparing its metropolitan economies. The logic for such an approach stems from growing recognition of the significance of metropolitan areas as engines for growth in a nation's (or state's) economy. Jane Jacob's recent articles in the *Atlantic Monthly* (March and April 1984) eloquently explain the concept of urban areas as centers of research, innovation, enterprise, and finance. Any plan—national, state, or regional—to reshape economic life must take account of its cities.

This article has four major purposes:

- To demonstrate that, with a few exceptions, Indiana's metropolitan economies worsened between 1975 and 1982.
- To challenge the assumption that Indiana's future economic growth lies in the nonmanufacturing (service) sector.
- To stress the importance of balanced growth between manufacturing and non-

manufacturing for a healthy metropolitan economy.

• To highlight the importance of regional and metropolitan considerations in a statewide economic development strategy.

Data from the last two major recessions, 1973-75 and 1981-82, are compared. These time periods were separated by a recovery from 1976 to 1979 and a mild recession in 1980. Comparable metropolitan data on employment growth rates could not be obtained for 1975, so 1976 data were used in Figures 3 and 4.

Unemployment

One primary indicator of Indiana's economic condition is its unemployment rate compared to the national rate. As illustrated in Figure 2, Indiana's average unemployment rate was slightly below that of the nation during the 1975 recession.

Figure 1

Indiana's Economic Geography According to Joel Garreau in *The Nine Nations of North America*



2000 (Projected)	Percent Change
20,100	29.2
58,200	16.3
309,800	8.7
17,900	31.1
4,400	14.8
16,900	23.5
40,900	21.3
16,000	23.4
24,600	43.0
7,900	55.9
16,600	37.8
2,700	48.0
8,500	25.6
8,900	56.2
7,800	31.4
7,700	12.9
6,500	27.4
69,500	77.1
13,400	48.7
5,600	19.7
11,600	22.8
13,000	21.7
11,200	37.1
7,000	5.0
94,800	9.9
9,600	43.4
17,400	25.3
8,800	37.5
10,000	33.4
12,900	47.1
9,400	18.1
3,400	34.6
47,300	16.0
7,000	16.4
2,900	22.4
70,500	10.0
8,700	25.5
42,400	5.1
15,200	20.3
3,700	21.5
25,500	85.4
10,300	36.2
29,500	7.3
11,500	29.8
11,300	28.1
11,900	31.6

During the 1982 recession, however, the state's unemployment exceeded the nation's by 23 percent. Only three of the state's Standard Metropolitan Statistical Areas (SMSAs)—Lafayette, Indianapolis, and Bloomington—had a lower rate than the nation in 1982 even though unemployment in Lafayette and Indianapolis increased between 1975 and 1982. Lafayette was the only area with an unemployment rate substantially below that of the United States as a whole in 1982.

Bloomington and Elkhart were the only two areas in the state to experience improvement in the unemployment rate between 1975 and 1982. Unlike Bloomington, Elkhart remained above the national average in 1982. However, Elkhart did perform better than the state in 1982. Three other SMSAs—Evansville, South Bend, and Terre Haute—also performed worse than the nation but better than the state in 1982. The five hardest-hit SMSAs in the state, as measured by unemployment, were Gary-Hammond-East Chicago, Muncie, Anderson, Fort Wayne, and New Albany. In 1982 these areas had higher average unemployment rates than both the state and nation.

Employment Growth

A second useful indicator of economic performance is employment growth rates—both the total rate and the rate broken into manufacturing and nonmanufacturing sectors, for the state as a whole and for each SMSA. Figure 3 presents the percent change in total employment and employment by sector for the state and each SMSA.

There are two findings from these data. First, the nonmanufacturing sector has grown in the state and in every SMSA; second, manufacturing employment has declined in every area except Lafayette, for which no change in manufacturing employment has occurred. Figure 3 further reveals that total employment grew in eight of the twelve SMSAs. The state as a whole experienced a slight decrease in overall employment. Despite a substantial drop in manufacturing, the increase in the nonmanufacturing sector helped maintain the overall

level of employment for the state. This leads some economic planners to argue for a concerted effort by the state to expand its nonmanufacturing sector.

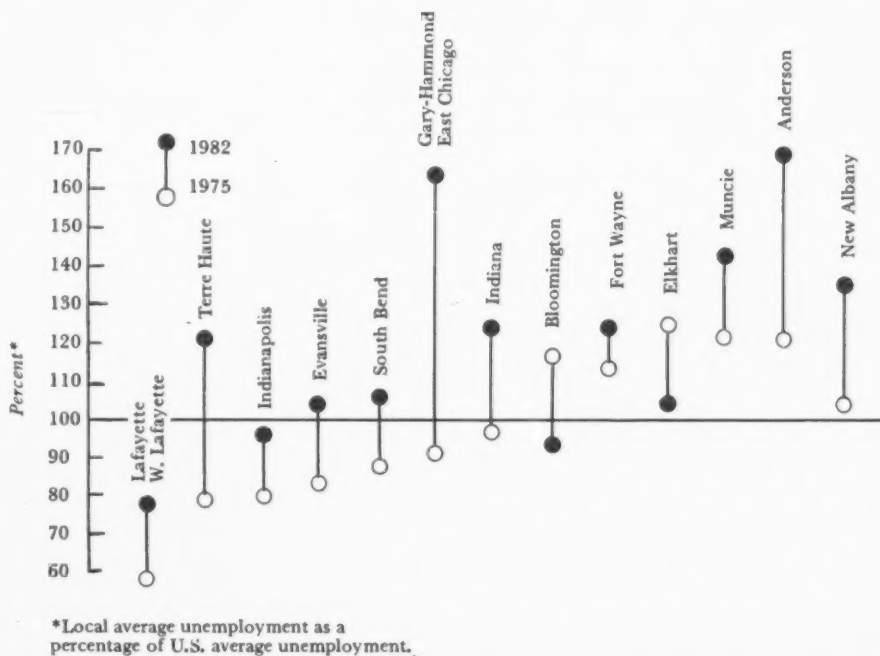
Economic Balance

The length of the line for each area in Figure 3 provides additional information about each metropolitan economy. Gurwitz, in an article in the *Quarterly Review of the Federal Reserve Bank of New York* (Autumn 1983), points out that the length of the line represents the "balance" of economic growth in a particular area. Balance refers to similar growth patterns between the manufacturing and nonmanufacturing sectors. A short line indicates balanced growth while a long line indicates unbalanced growth. Using this criterion, we

can see that Lafayette and Evansville have had the most balanced growth between 1976 and 1982. South Bend, Terre Haute, Indianapolis, and Elkhart also have shorter lines than Indiana, thus indicating a relative degree of balance in their economies. With the exception of Elkhart, these areas also had a greater increase in total employment than the state.

At the other extreme, Anderson, Muncie, and Gary-Hammond-East Chicago had a larger "spread" and also a greater decrease in total employment than Indiana. Bloomington, Fort Wayne, and New Albany also had a larger "spread" than the state. However, in these three SMSAs total employment increased between 1976 and 1982. Although the loss in manufacturing had a substantial effect on Fort Wayne's

Figure 2
Average Unemployment for Indiana SMSAs
Compared with U.S. Average Unemployment, 1975-1982



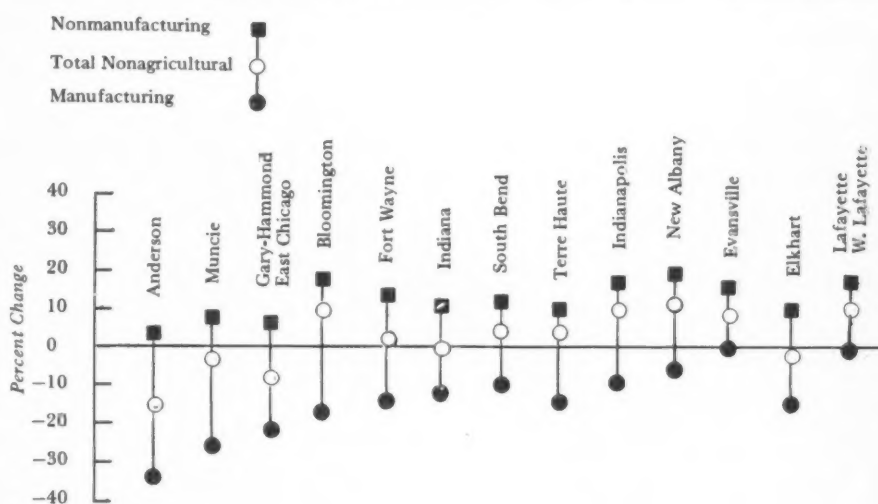
economy, the increase in nonmanufacturing was large enough to give the city a small increase in total growth. New Albany, which had a slight decrease in manufacturing and a substantial increase in nonmanufacturing, experienced the greatest total growth in the state. A plausible explanation for this is the rapid growth in New Albany's labor force due to a spurt in suburban settlement associated with the Louisville-Jeffersonville metropolis. Therefore, even with tremendous growth in total employment, unemployment worsened. Bloomington had the second largest growth in total employment in the state. However, in Bloomington the growth in the labor force was not greater than the growth in employment, as it was in New Albany. Therefore, Bloomington's unemployment rate improved. Bloomington's growth came in spite of a substantial decrease in manufacturing, and was due to an exceptional increase in nonmanufacturing.

In general, the "spread" of each economy correlates with the unemployment data in Figure 2. That is, the more balanced a local economy, the lower the unemployment rate compared to the nation's. The two exceptions to this rule are Terre Haute and Bloomington. Terre Haute experienced relatively balanced growth when compared to the other areas of the state, but its unemployment rate increased substantially from the recession of 1975 to the recession of 1982. Bloomington had "unbalanced" growth but a decrease in unemployment. Five of the six areas with the largest "spreads"—Gary-Hammond-East Chicago, Fort Wayne, Muncie, Anderson and New Albany—were also areas with the highest unemployment rates. That is, unemployment worsened in each area between 1975 and 1982, and each area performed worse than both the state and the nation in 1982. With the exception of New Albany, these SMSAs experienced a substantial drop in manufacturing between 1976 and 1982.

Manufacturing Employment Percentage

Figure 4 reveals that the most stable economies in Indiana generally have a smaller percentage of their employment in manufacturing and a relatively small de-

Figure 3
Employment Growth Rates in Indiana SMSAs, 1976-1982



Source: Indiana Labor Market Trends

cline in the percentage of employment in manufacturing between 1976 to 1982. It is interesting to note that Muncie, a "weak" economy by other standards, is similar to the "strong" economies with regard to percentage of employment in manufacturing. However, it has shown a rather significant decrease from 1976 to 1982 in manufacturing as a percentage of total employment. This is similar to the other "weak" economies such as Gary-Hammond-East Chicago and Anderson. In contrast, Elkhart, one of only two SMSAs to experience a drop in unemployment, has a higher percentage of people employed in manufacturing than any other SMSA in the state. A close examination of Elkhart, though, reveals several important factors that may have contributed to its positive performance. First, Elkhart's manufacturing sector is very broadly based. No one particular industry dominates the sector, as the primary metal industry does in Gary-Hammond-East Chicago and the automo-

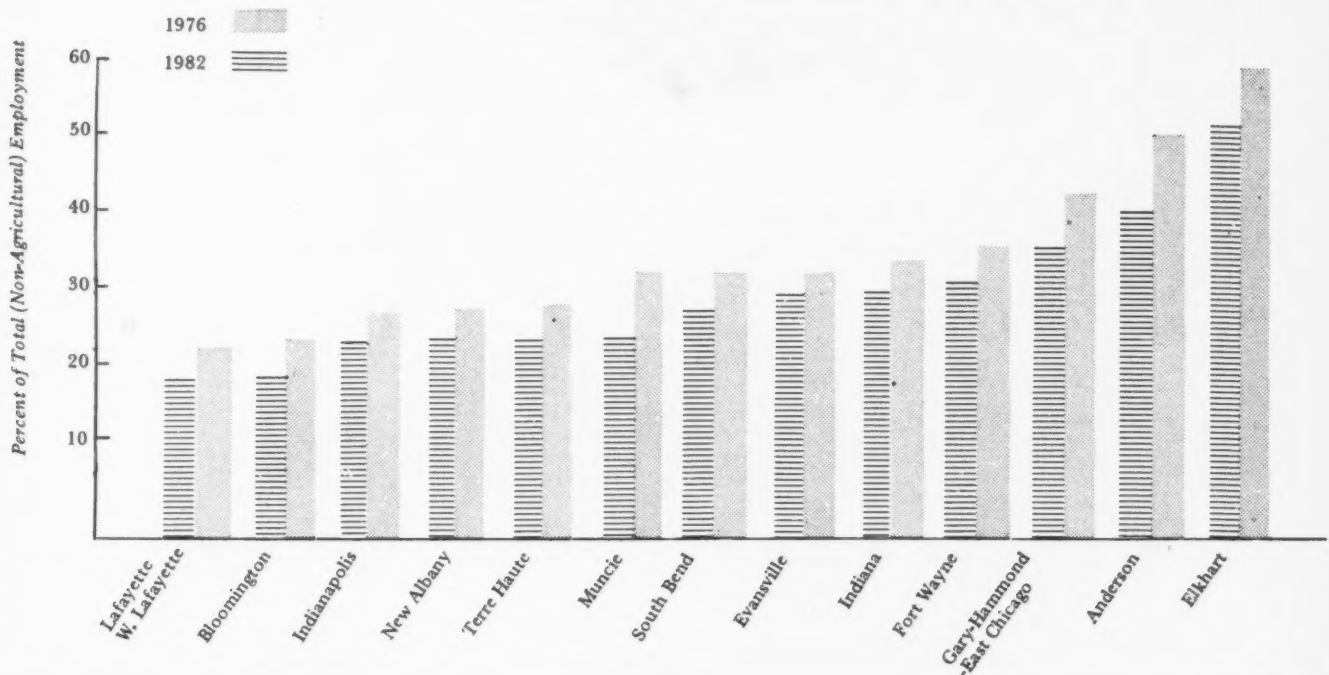
tive industry does in Anderson. The largest manufacturing industry in Elkhart is transportation equipment (including recreational vehicles). This industry accounts for only about 10 percent of total employment. In addition, Elkhart has a good balance between durable and nondurable goods manufacturing. Second, Elkhart is a high-tech growth area, as reflected in its pharmaceutical industry. Third, some of Elkhart's less technology-intensive industries, such as wood products, are still growing.

The importance of a diverse manufacturing sector is also illustrated by the three most stable economies in the state. Lafayette, Indianapolis, and Evansville each have a manufacturing sector that is heterogeneous. Further, each has a reasonable balance between the production of durable and nondurable goods.

Conclusion

Much of the conventional wisdom in In-

Figure 4
Manufacturing as a Percentage of Total (Non-Agricultural) Employment, 1976-1982



diana, and in other industrial states, is that the service sector of the economy must be bolstered to ensure economic growth. However, these data suggest that the non-manufacturing sector is growing without any extra incentives as the U.S. becomes an "information society." This analysis suggests that those areas with the most balanced growth between the manufacturing and nonmanufacturing sectors have the strongest economies. In a branch plant economy, such as in Indiana, loss of the manufacturing base would appear to disrupt its metropolitan economies. Therefore, to promote stable growth, it might be more fruitful to concentrate on the manufacturing sector. This points to the importance of modernizing and automating In-

diana's manufacturing base and expanding markets for manufactured goods. Indiana's economic well-being lies in the rapid and sophisticated deployment of high technology to existing manufacturing establishments. The importance of applied research centers, such as CIDMAC at Purdue, and of technology transfer centers, such as the Center for Productivity proposed in the statewide economic development plan, cannot be stressed too much.

However, it must be recognized that manufacturing is an extremely broad category. The type and distribution of manufacturing present in an area contribute significantly to the stability of the economy. Elkhart's performance between 1975 and 1982 demonstrates that a balanced

manufacturing economy can survive.

Finally, any statewide economic development strategy must recognize the uniqueness of each of Indiana's metropolitan economies. Uniform strategies universally applied will probably be counterproductive. Each substate region and metropolitan area must be assessed for its strengths and weaknesses, and public initiatives must be selectively applied through joint consultation between local area development groups and the Indiana Department of Commerce. The state is a political unit that can provide tools and reduce barriers so that geographic economic units within state can respond competitively and aggressively to changing economic conditions. □

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